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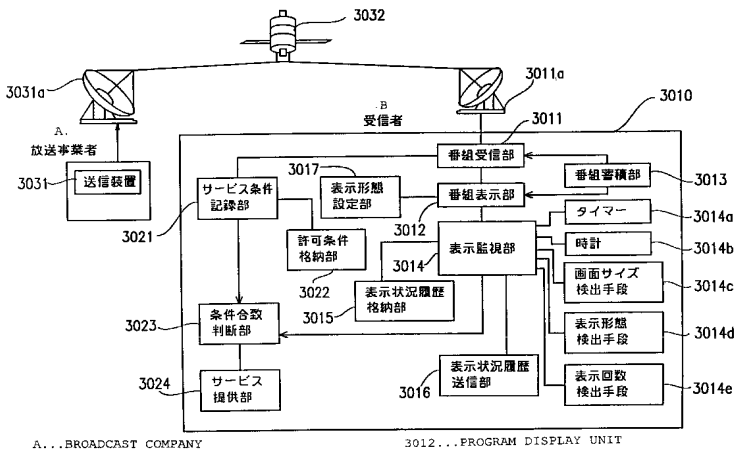
(54) Title: PROGRAM RECEIVER AND TRANSMITTER

(54) 発明の名称: 番組受信装置および送信装置



A...BROADCAST COMPANY
3031...TRANSMITTER
B...RECEIVING USER
3021...SERVICE CONDITION RECORDING UNIT
3023...CONDITION AGREEMENT JUDGING UNIT
2024...SERVICE PROVIDING UNIT
3017...DISPLAY MODE SETTING UNIT
3022...PERMISSION CONDITION STORAGE UNIT
3015...DISPLAY STAGE RECORD STORAGE UNIT
3011...PROGRAM RECEIVING UNIT
3012...PROGRAM DISPLAY UNIT
3014...DISPLAY MONITORING UNIT
3016...DISPLAY STATE RECORD TRANSMITTING UNIT
3013...PROGRAM ACCUMULATING UNIT
3014a...TIMER
3014b...CLOCK
3014c...SCREEN SIZE SENSING MEANS
3014d...DISPLAY MODE SENSING MEANS
3014e...DISPLAY FREQUENCY COUNTING MEANS

(57) Abstract: A program receiver characterized by comprising a program receiving unit for receiving program information and a program identifier for identifying the program information, a program display unit for displaying the received program information, a display monitoring unit for monitoring a program display state record which is the record of the display state of a predetermined program information displayed on the program display unit, a display state record storage unit where the program identifier of the program information monitored by the display monitoring unit and the display stage record information which is the information representing the display state record of the program information are stored in pairs.

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TECHNICAL FIELD

[Field of the Invention]This invention relates to the sending set which transmits program information by satellite broadcasting, digital broadcasting, etc., and the program receiving set which receives the program information transmitted by the sending set.

[Translation done.]

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PRIOR ART

[Description of the Prior Art]In the program receiving set of the digital broadcasting using a communications satellite, it becomes easy to accumulate the program information transmitted, and to view and listen at arbitrary time. The display style of the program information in the program indicator in a program receiving set can also display a program on the field which could be changed easily, for example, was set as arbitrary shape in the arbitrary positions in a display screen.

[Translation done.]

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention]Thus, when a televiewer does not view and listen to the program information transmitted from a broadcasting station etc. simultaneously with transmission of program information, there is a problem that it is not easy to investigate clearly the program and viewing time to which the televiewer viewed and listened. In particular, in the case of CM concerning [program information] goods etc., it views and listens only to program information, such as a drama, and since the program information about CM accumulated in the program receiving set is easily separable from program information, such as a drama, program information, such as CM, also has a possibility that it may not be viewed and listened in it.
[0004]A televiewer may display, view and listen to the program information about CM in the small field in a display screen.
[0005]This invention solves such a problem. The purpose is to provide a televiewer with the program receiving set and sending set which can be urged to viewing and listening of predetermined program information by providing the suitable service corresponding to the display state of predetermined program information.

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EFFECT OF THE INVENTION

[Effect of the Invention]In this way, since the program receiving set of this invention can provide the suitable service corresponding to the display state of predetermined program information, it can demand viewing and listening of predetermined program information from a televiewer. The sending set of this invention can constitute the service provision system which can provide suitable service to a televiewer with such a program receiving set.

[Translation done.]

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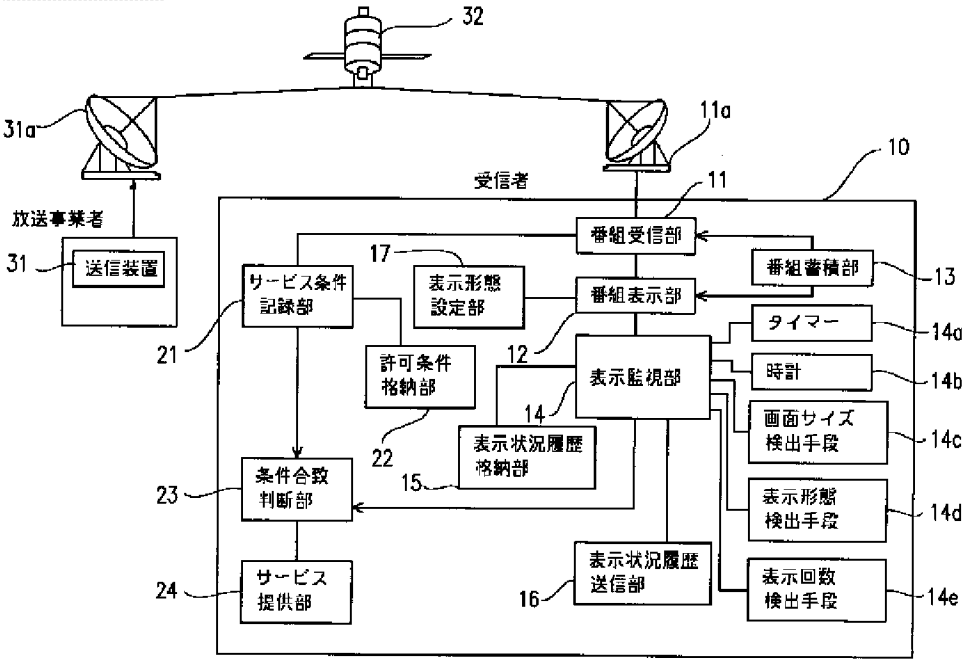
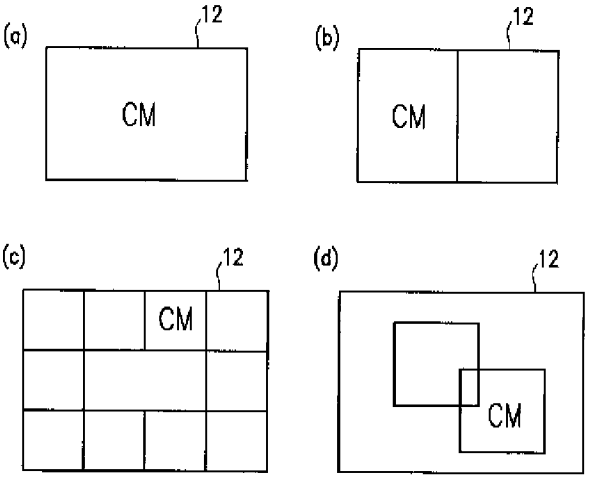
DRAWINGS

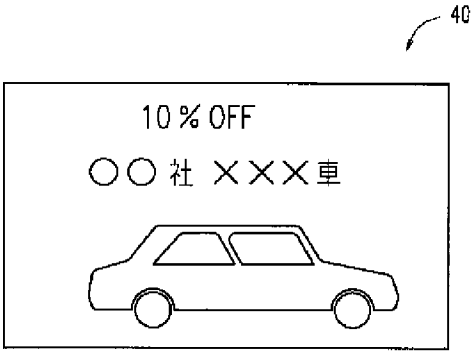
[Drawing 1]



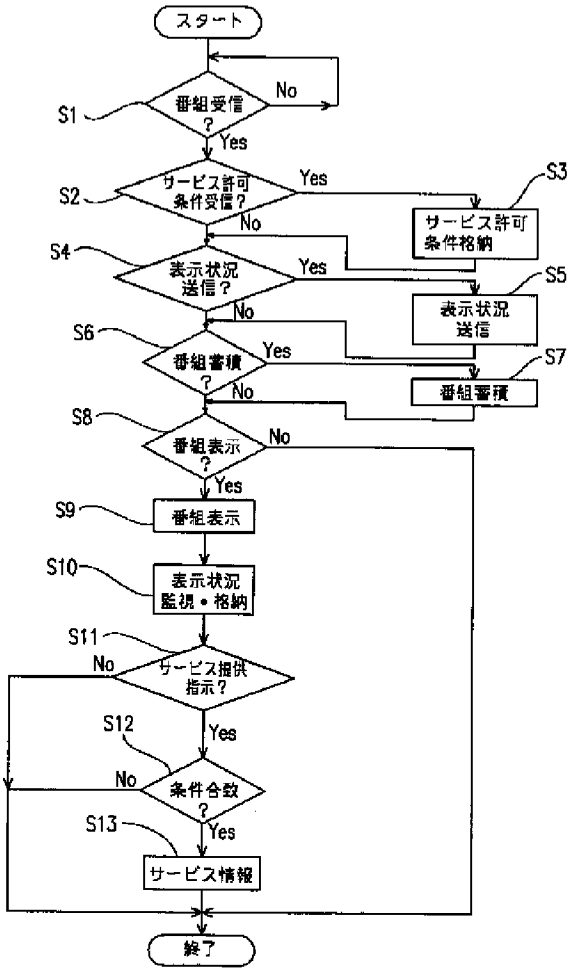
[Drawing 2]



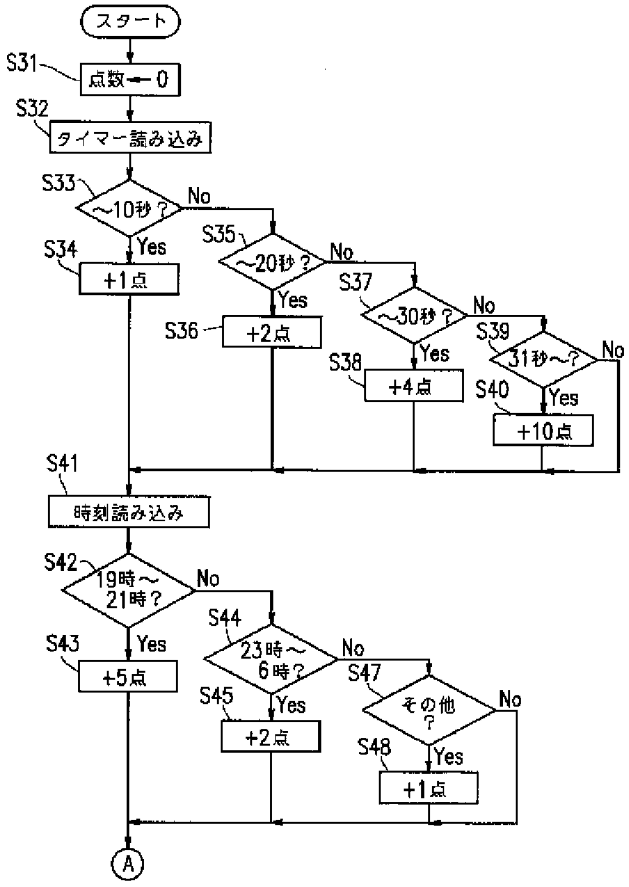
[Drawing 7]



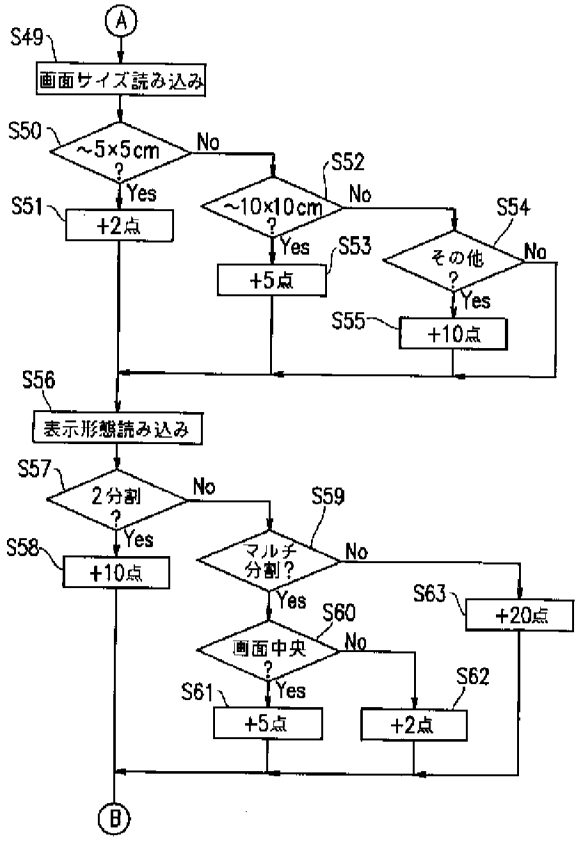
[Drawing 3]



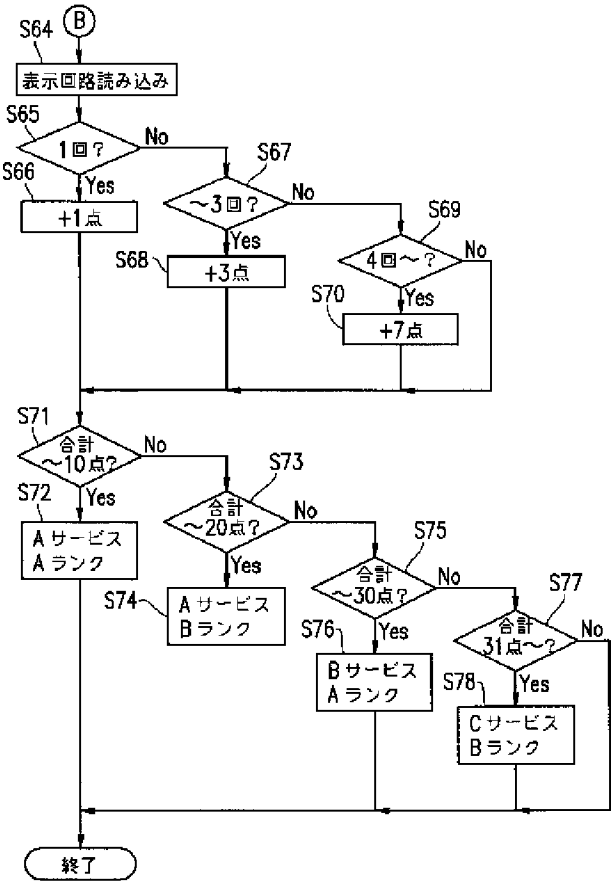
[Drawing 4]



[Drawing 5]



[Drawing 6]



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MEANS

[Means for Solving the Problem]A program receiving set of this invention is provided with the following.
A program receive section which receives a program identifier which identifies program information and program information.
A program indicator which displays program information which said program receive section received.
The display Monitoring Department which supervises a program display state history which is a history of a display state of predetermined program information displayed in said program indicator, A display state history storage which makes a pair a program identifier of program information supervised at said display Monitoring Department, and display state hysteresis information which is information which shows a display state history of the program information, and stores it.

[0007]A program receiving set of this invention possesses further a program storage part which accumulates program information received in said program receive section, and a program identifier, and said program indicator displays program information accumulated by said program storage part.
[0008]A program receiving set of this invention possesses further a display state history transmission section which transmits display history information stored in said display state storage.
[0009]A program receiving set of this invention possesses further a display determination set part which sets up a display style of program information in said program indicator, and said program indicator displays program information according to said display style.
[0010]A terms-of-the-license storage which stores service terms of the license which are conditions which a program receiving set of this invention permits service, When a decision result in a condition agreement judgment part which judges whether it agrees in service terms of the license by which said display state hysteresis information is stored in this service terms-of-the-license storage, and said condition agreement judgment part agrees, a service provision section which generates information about service provided for a televiewer is provided further.
[0011]Said program receive section also receives service terms of the license, and possesses further the service terms-of-the-license Records Department which stores said service terms of the license in

said terms-of-the-license storage.
[0012]Said display Monitoring Department has a timer and display time of program information is included in a display information history supervised at this display Monitoring Department.
[0013]Said display Monitoring Department has a clock and display start time of program information is contained in a display information history supervised at this display Monitoring Department.
[0014]Said display Monitoring Department has a screen size detection means to detect screen size of program information displayed in a program indicator, and display screen size of program information is contained in a display information history supervised at this display Monitoring Department.
[0015]Said display Monitoring Department has a display style detection means to detect a display style of program information displayed in a program indicator, and a display style of program information is included in a display information history supervised at this display Monitoring Department.
[0016]Said display Monitoring Department has a display frequency detection means to detect display frequency of program information displayed in a program indicator, and display frequency of a program is contained in a display information history supervised at this display Monitoring Department.
[0017]Said service provision section generates coupon information which is information about a coupon.
[0018]Said service provision section generates key information of which scramble of a program to which specific scramble was able to be applied is canceled.
[0019]A sending set of this invention transmits service terms of the license based on display history information transmitted in said display state history transmission section.
[0020]
[Embodiment of the Invention]Hereafter, an embodiment of the invention is described based on a drawing. Drawing 1 is a block diagram showing an example using the program receiving set and sending set of this invention of a service provision system. The sending set 31 which uses this service provision system in order that a broadcasting organization may transmit the program information of digital broadcasting, It carries out from the PARABONA antenna 31a of the sending set 31 using the program receiving set 10 by the side of the televiewer who receives the program information of digital broadcasting transmitted to the communications satellite 32 with the PARABONA antenna 11a.
[0021]A broadcasting organization's sending set 31 transmits the program information about CMs, such as program information about contents, such as a drama, a sport, and news, and goods, to a televiewer's program receiving set 10 with the program identifier which specifies each program information.
[0022]The program receiving set 10 is provided with the following.
The program receive section 11 which receives the program identifier which identifies the program information transmitted from the sending set 31, and its program information.
The program indicator 12 which displays the program information received in the program receive

section 11.
The program storage part 13 which accumulates the program information received in the program receive section 11.
The program indicator 12 displays the program information accumulated by the program storage part 13 on the specified time while displaying simultaneously with reception the program information received in the program receive section 11.
[0023]In the service provision system carried out by the sending set 31 and the program receiving set 10. Based on the history of a display state when the specific program information transmitted from the sending set 31 is displayed by the program indicator 12 of the program receiving set 10, a purveyor of service provides the predetermined service to a televiewer with the program receiving set 10.
[0024]The advertising agency whose purveyor of service is a maker of CM, for example, the entrepreneur who is donors of CM, It is a broadcasting organization etc. who are makers of contents, such as a drama, and they are contents etc. of CM which the advertising agency manufactured, CM which an entrepreneur provides, and a broadcasting organization as program information in connection with offer of service. And in the program receiving set 10, when the history of the display state about the program information in connection with service provision agrees on predetermined conditions, predetermined service provision is performed to a televiewer by the program receiving set 10.
[0025]The purveyor of service has set up beforehand the conditions for permitting offer of the service to a televiewer, and the service terms of the license are transmitted to the program receiving set 10 from the broadcasting organization's sending set 31.
[0026]The display style set part 17 which sets up the display style of the program information displayed on a screen is formed in the program indicator 12 in the program receiving set 10, and program information is displayed on a screen by the display style set up in this display style set part. As shown in drawing 2 (a) as a display style of program information, when displaying one program information on one screen, without dividing a screen, as shown in drawing 2 (b) and (c), When displaying independently, without dividing a screen into two or more fields, and piling each up (tile type window), as shown in drawing 2 (d), A screen may be divided into two or more fields, and a screen may be displayed in piles (overlap type window), When dividing so that the screen sizes of all the divided fields may differ, when the screen size of the field divided also when a screen was divided into plurality divides equally, it may divide so that the screen size of two or more arbitrary fields may become equal. When a screen divides into two or more fields, it displays the same program information on all the screens and it displays the same program information on two or more arbitrary fields, program information which is different to all the fields may be displayed.
[0027]The display state of the predetermined program information displayed by the program indicator 12 is supervised with the identifier of the program information displayed at the display Monitoring Department 14. The display Monitoring Department 14 The timer 14a, the clock 14b, the screen size detection means 14c, The display state is supervised based on each detection result by the display style detection means 14d and the display frequency detection means 14e, and the display state

based on each detection result makes it the identifier of program information and pair which were supervised, and is stored in the display state history storage 15.

[0028]The timer 14a measures the time when predetermined program information is displayed by the program indicator 12. The clock 14b measures the display start time of predetermined program information by the program indicator 12.

[0029]The screen size detection means 14c detects the screen size which is the area of the screen currently displayed when predetermined program information is displayed by the program indicator 12. When predetermined program information is displayed on two or more divided fields in a screen, the screen size detection means 14c detects the area of all the fields where the program information is displayed.

[0030]In the display style set up by the display style set part 17, the display style primary detecting element 14d detects the position of a display screen and the shape of a display screen where predetermined program information was displayed.

[0031]The display frequency detection means 14e detects the number of times as which predetermined program information was displayed by the program indicator 12.

[0032]Whenever the display state of the predetermined program information supervised by the display Monitoring Department 14 is displayed by the program indicator 12, it is stored in the display state history storage 15 one by one, and let it be display state hysteresis information.

[0033]The hysteresis information about the display state of the predetermined program information stored in the display state history storage 15 is transmitted by the display state history transmission section 16 via networks, such as a telephone line and the Internet, as opposed to the purveyor of service who provides the service to a televiewer. Transmission of the display state hysteresis information by the display state history transmission section 16 is performed based on the transmitting support information transmitted from the sending set 31.

[0034]The service terms of the license which the service terms of the license to which the program receive section 11 is transmitted from the sending set 31 were also received, and were received in the program receive section 31 are recorded at the service condition Records Department 21. And the service terms of the license recorded at the service condition Records Department 21 are stored in the terms-of-the-license storage 22.

[0035]The information which directs that the sending set 31 provides predetermined service to the program receiving set 10 is also transmitted. And if the information which directs service provision is received by the program receiving set 10, The service terms of the license stored by the terms-of-the-license storage 22 and the specific history of the display state of program information stored by the display state history storage 15, It is judged whether it is read into the condition agreement judgment part 23, and the history of the display state about the specific information stored in the display state history storage 15 agrees in the service terms of the license transmitted beforehand. And when the history of the display state about predetermined program information agrees in service terms of the license, predetermined service to a televiewer is carried out by the service provision section 24, for example, the coupon information about discount of predetermined goods, etc. is generated. The

generated coupon information is displayed in the program receive section 11, and a televiewer enjoys service of discount of goods, etc. based on the coupon information.

[0036]Drawing 3 is a flow chart which shows operation of the program information receiving set 10. If program information is received by program ******** 11 (step S1 reference of drawing 3), the program receiving set 10, When it checks whether service terms-of-the-license information is included to the program information received in the program receive section 11 (Step S2) and service terms-of-the-license information is included in it, The service terms-of-the-license information transmitted is stored in the terms-of-the-license storage 22 by the service condition Records Department 21 (Step S3).

[0037]When the order information to which a display state history is transmitted from the display state history transmission section 16 is included, a display state history is transmitted to networks, such as a telephone line and the Internet, from (Step S4) and the display state history transmission section 16 (Step S5).

[0038]In checking whether the program information received is accumulated by the program storage part 13 (Step S6) and accumulating by the program storage part 13, it accumulates the program information received in the program storage part 13 (Step S7). In displaying the program information received or the program information accumulated by the program storage part 13 by the program indicator 12, it displays (Step S8), the program information received, or the program information accumulated by the program storage part 13 by the program indicator 12 (step S9).

[0039]The televiewer can accumulate the program information transmitted in the program storage part 13, and it can once view and listen to it at arbitrary time while he can display simultaneously with transmission by the sending set 31 the program information received in the program receive section 11 on the program indicator 12 and can view and listen to it, as mentioned above. And by the display style set part 17, presenting of program information can also be displayed, where a display screen is divided into arbitrary fields.

[0040]When program information is displayed by the program indicator 12, the display Monitoring Department 14 stores in the display state history storage 15 the display state which supervises the situation of the program information displayed by the program indicator 12, and is supervised at the display Monitoring Department 12 (Step S10).

[0041]In this case, the display Monitoring Department 14 stores that display state in the display state history storage 15 one by one, whenever it specifies the program information displayed by the program indicator 12 and that specified program information is displayed by the program indicator 12 by the identifier transmitted with program information. Therefore, the display state hysteresis information of specific program information is stored in the display state history storage 15.

[0042]For example, when specific program information is CM of predetermined goods and the CM is displayed on the program indicator 12, at the display Monitoring Department 14. While measuring the display time in the program indicator 12 of the CM by the timer 14a, the clock 14b detects the display start time of the program indicator 12 of the CM. While the screen size detection means 14c detects the display surface product in the program indicator 12 of the CM, The display style detection means 14d detects the display position and display shape in the program indicator 12 of the CM, and further,

when the CM is displayed on the program indicator 12 over multiple times, the display frequency detection means 14e of the display frequency detects. The display state based on all the detection result of them is stored in the display state history part storage 15 one by one.
[0043]When the information which directs service provision is included in the program information which sets after that and is received in the program receive section 11, by (Step S11) and the condition agreement judgment part 23. It is judged whether the service terms of the license stored by the terms-of-the-license storage 22 and the history of the display state of the specific program information stored by the display state history storage 15 have agreed (Step S12).
[0044]The condition agreement judgment part 23 reads the display state hysteresis information of the predetermined program information stored by display state rank history **** 15, and mark-izes read displaying condition hysteresis information (it mentions later for details).
[0045]And if the mark based on the display state hysteresis information at the time of predetermined program information being displayed by the program indicator 12 are computed, the condition agreement judgment part 23 compares the total marks with the service terms of the license transmitted from the sending set 31. The service terms of the license transmitted from the sending set 31 are a mark value corresponding to the mark about a display state history situation, and the contents and the amount of services of service are set up for every mark.
[0046]Thus, the condition agreement judgment part 23 compares the total marks about a display state history situation with the service terms of the license transmitted from the sending set 31, and determines the contents and the amount of services of service. And the service content and the amount of services which were determined are given to the service provision section 24, and the service provision section 24 generates the coupon information about discount of predetermined goods, etc. (Step S13).
[0047]The concrete contents of processing in the condition agreement judgment part 23 are explained based on drawing 4 - the flow chart of six. first, as shown in drawing 4, the condition agreement judgment part 23 sets mark to 0 (step S31 reference of drawing 4, and the following -- the same), and reads the display time by a timer (Step S32). And when display time is till 10 seconds, one point is added as (Step S33) and mark (Step S34). On the other hand, when display time is 10 to 20 seconds, (Step S35) and two points are added (Step S36), and when display time is 20 to 30 seconds, (Step S37) and four points are added (Step S38). Hereafter, if display time increases, the mark added will increase one by one (Steps S39 and S40).
[0048]Subsequently, the display time by a clock is read (Step S41). And when (Step S42) and five points are added in the case of 19:00 to 21:00 (Step S43) and the read display time is 23:00 to 6:00, (Step S44) and two points are added (Step S45). Hereafter, the mark beforehand set up for every time zone are added (Steps S47 and S48).
[0049]Next, screen-display size is read (Step S49 of drawing 5). And when (Step S50) and two points are added for example, when smaller than 5x5 cm (Step S51), and the read screen sizes are 5x5 cm - 10x10 cm, (Step S52) and five points are added (Step S53). Hereafter, the mark added increase one by one, so that screen size becomes large (Steps S54 and S55).

[0050]Then, the display style of a screen is read (Step S56). To the case in the state where it read and the display style of ** and a screen divided the display screen into two, for example, and the (step S57), Ten points are added (Step S58), and two points will be added, if (Step S59) and a display position display on the portions of (Step S60), five points (Step S61), and others in a middle-of-the-screen part in being multi-division (Step S62). 20 points are added when not dividing a display screen (Step S63).
[0051]Next, display frequency is read (Step S64 of drawing 6). And (Step S65) and one point are added for the number of times of reading to 1 time of a case, for example (Step S66), and when display frequency is 2 to 3 times, (Step S67) and three points are added (Step S68). Hereafter, the mark added increase one by one, so that the number of times of reading increases (Steps S69 and S70).
[0052]And if the mark based on the display state hysteresis information at the time of predetermined program information being displayed by the program indicator 12 are computed, the condition agreement judgment part 23 compares the total marks with the service terms of the license transmitted from the sending set 31. The service terms of the license transmitted from the sending set 31 are a mark value corresponding to the mark about a display state history situation, and the contents and the amount of services of service are set up for every mark.
[0053]For example, the total marks based on display state hysteresis information are the coupon information that ten points provide discount (A services) of (Step S71) and A goods for 10 percent off (A ranks) (Step S72). Total marks are the coupon information that 10-20 points provide discount (A services) of (Step S73) and A goods for 20 percent off (A ranks) (Step S74). Total marks are the coupon information that 20-30 points provide discount (B services) of (Step S75) and B goods for 10 percent off (A ranks) (Step S76). hereafter, the coupon information with which the service content and the amount of services which were set up beforehand are alike, and are related is determined for every total marks (Steps S77 and S78).
[0054]Although the service provision section 24 will display the determined coupon information, the coupon 40 as shows drawing 7 the coupon information displayed with a printer etc., for example is printed out suitably. In this case, in order that the coupon 40 printed out may prevent being copied unjustly, the existing electronic watermark technology can be used, for example. In this case, when printed out, the information about copyright is formed as digital watermarking.
[0055]Thus, based on the display state hysteresis information at the time of predetermined program information being displayed by the program indicator 12, the service provision section 24 generates predetermined servicing information. Therefore, the televiewer can enjoy many predetermined services by displaying predetermined program information on the program indicator 12 in a large area in large numbers.
[0056]It may be made to provide not only generation of such coupon information but the key information of which the scramble of the program information to which the scramble transmitted from the sending set 31 was applied, for example is canceled as service performed by the service provision section 24. Even if the scrambled program information is received by the program receive

section 11 by this, the program information will be in the state where scramble was canceled, and will be displayed on the program indicator 12.

[0057]The display state hysteresis information stored in the display state history part 15 is read into memory card, and it may enable it to store it. Thus, when display state hysteresis information reads into memory card, By reading the display state hysteresis information stored in the memory card with a suitable read-out device, predetermined service is enjoyable at a different place from the place where the program receiving set 10 is arranged.

[Translation done.]

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2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention]This invention relates to the sending set which transmits program information by satellite broadcasting, digital broadcasting, etc., and the program receiving set which receives the program information transmitted by the sending set.
[0002]
[Description of the Prior Art]In the program receiving set of the digital broadcasting using a communications satellite, it becomes easy to accumulate the program information transmitted, and to view and listen at arbitrary time. The display style of the program information in the program indicator in a program receiving set can also display a program on the field which could be changed easily, for example, was set as arbitrary shape in the arbitrary positions in a display screen.
[0003]
[Problem(s) to be Solved by the Invention]Thus, when a televiewer does not view and listen to the program information transmitted from a broadcasting station etc. simultaneously with transmission of program information, there is a problem that it is not easy to investigate clearly the program and viewing time to which the televiewer viewed and listened. In particular, in the case of CM concerning [program information] goods etc., it views and listens only to program information, such as a drama, and since the program information about CM accumulated in the program receiving set is easily separable from program information, such as a drama, program information, such as CM, also has a possibility that it may not be viewed and listened in it.
[0004]A televiewer may display, view and listen to the program information about CM in the small field in a display screen.
[0005]This invention solves such a problem. The purpose is to provide a televiewer with the program receiving set and sending set which can be urged to viewing and listening of predetermined program information by providing the suitable service corresponding to the display state of predetermined program information.

[0006]
[Means for Solving the Problem]A program receiving set of this invention is provided with the following.
A program receive section which receives a program identifier which identifies program information and program information.
A program indicator which displays program information which said program receive section received.
The display Monitoring Department which supervises a program display state history which is a history of a display state of predetermined program information displayed in said program indicator, A display state history storage which makes a pair a program identifier of program information supervised at said display Monitoring Department, and display state hysteresis information which is information which shows a display state history of the program information, and stores it.

[0007]A program receiving set of this invention possesses further a program storage part which accumulates program information received in said program receive section, and a program identifier, and said program indicator displays program information accumulated by said program storage part.
[0008]A program receiving set of this invention possesses further a display state history transmission section which transmits display history information stored in said display state storage.
[0009]A program receiving set of this invention possesses further a display determination set part which sets up a display style of program information in said program indicator, and said program indicator displays program information according to said display style.
[0010]A terms-of-the-license storage which stores service terms of the license which are conditions which a program receiving set of this invention permits service, When a decision result in a condition agreement judgment part which judges whether it agrees in service terms of the license by which said display state hysteresis information is stored in this service terms-of-the-license storage, and said condition agreement judgment part agrees, a service provision section which generates information about service provided for a televiewer is provided further.
[0011]Said program receive section also receives service terms of the license, and possesses further the service terms-of-the-license Records Department which stores said service terms of the license in said terms-of-the-license storage.
[0012]Said display Monitoring Department has a timer and display time of program information is included in a display information history supervised at this display Monitoring Department.
[0013]Said display Monitoring Department has a clock and display start time of program information is contained in a display information history supervised at this display Monitoring Department.
[0014]Said display Monitoring Department has a screen size detection means to detect screen size of program information displayed in a program indicator, and display screen size of program information is contained in a display information history supervised at this display Monitoring Department.
[0015]Said display Monitoring Department has a display style detection means to detect a display style of program information displayed in a program indicator, and a display style of program information is included in a display information history supervised at this display Monitoring

Department.
[0016]Said display Monitoring Department has a display frequency detection means to detect display frequency of program information displayed in a program indicator, and display frequency of a program is contained in a display information history supervised at this display Monitoring Department.
[0017]Said service provision section generates coupon information which is information about a coupon.
[0018]Said service provision section generates key information of which scramble of a program to which specific scramble was able to be applied is canceled.
[0019]A sending set of this invention transmits service terms of the license based on display history information transmitted in said display state history transmission section.
[0020]
[Embodiment of the Invention]Hereafter, an embodiment of the invention is described based on a drawing. Drawing 1 is a block diagram showing an example using the program receiving set and sending set of this invention of a service provision system. The sending set 31 which uses this service provision system in order that a broadcasting organization may transmit the program information of digital broadcasting, It carries out from the PARABONA antenna 31a of the sending set 31 using the program receiving set 10 by the side of the televiewer who receives the program information of digital broadcasting transmitted to the communications satellite 32 with the PARABONA antenna 11a.
[0021]A broadcasting organization's sending set 31 transmits the program information about CMs, such as program information about contents, such as a drama, a sport, and news, and goods, to a televiewer's program receiving set 10 with the program identifier which specifies each program information.
[0022]The program receiving set 10 is provided with the following.
The program receive section 11 which receives the program identifier which identifies the program information transmitted from the sending set 31, and its program information.
The program indicator 12 which displays the program information received in the program receive section 11.
The program storage part 13 which accumulates the program information received in the program receive section 11.
The program indicator 12 displays the program information accumulated by the program storage part 13 on the specified time while displaying simultaneously with reception the program information received in the program receive section 11.
[0023]In the service provision system carried out by the sending set 31 and the program receiving set 10. Based on the history of a display state when the specific program information transmitted from the sending set 31 is displayed by the program indicator 12 of the program receiving set 10, a purveyor of service provides the predetermined service to a televiewer with the program receiving set 10.
[0024]The advertising agency whose purveyor of service is a maker of CM, for example, the

entrepreneur who is donors of CM, It is a broadcasting organization etc. who are makers of contents, such as a drama, and they are contents etc. of CM which the advertising agency manufactured, CM which an entrepreneur provides, and a broadcasting organization as program information in connection with offer of service. And in the program receiving set 10, when the history of the display state about the program information in connection with service provision agrees on predetermined conditions, predetermined service provision is performed to a televiewer by the program receiving set 10.

[0025]The purveyor of service has set up beforehand the conditions for permitting offer of the service to a televiewer, and the service terms of the license are transmitted to the program receiving set 10 from the broadcasting organization's sending set 31.

[0026]The display style set part 17 which sets up the display style of the program information displayed on a screen is formed in the program indicator 12 in the program receiving set 10, and program information is displayed on a screen by the display style set up in this display style set part. As shown in drawing 2 (a) as a display style of program information, when displaying one program information on one screen, without dividing a screen, as shown in drawing 2 (b) and (c), When displaying independently, without dividing a screen into two or more fields, and piling each up (tile type window), as shown in drawing 2 (d), A screen may be divided into two or more fields, and a screen may be displayed in piles (overlap type window), When dividing so that the screen sizes of all the divided fields may differ, when the screen size of the field divided also when a screen was divided into plurality divides equally, it may divide so that the screen size of two or more arbitrary fields may become equal. When a screen divides into two or more fields, it displays the same program information on all the screens and it displays the same program information on two or more arbitrary fields, program information which is different to all the fields may be displayed.

[0027]The display state of the predetermined program information displayed by the program indicator 12 is supervised with the identifier of the program information displayed at the display Monitoring Department 14. The display Monitoring Department 14 The timer 14a, the clock 14b, the screen size detection means 14c, The display state is supervised based on each detection result by the display style detection means 14d and the display frequency detection means 14e, and the display state based on each detection result makes it the identifier of program information and pair which were supervised, and is stored in the display state history storage 15.

[0028]The timer 14a measures the time when predetermined program information is displayed by the program indicator 12. The clock 14b measures the display start time of predetermined program information by the program indicator 12.

[0029]The screen size detection means 14c detects the screen size which is the area of the screen currently displayed when predetermined program information is displayed by the program indicator 12. When predetermined program information is displayed on two or more divided fields in a screen, the screen size detection means 14c detects the area of all the fields where the program information is displayed.

[0030]In the display style set up by the display style set part 17, the display style primary detecting

element 14d detects the position of a display screen and the shape of a display screen where predetermined program information was displayed.
[0031]The display frequency detection means 14e detects the number of times as which predetermined program information was displayed by the program indicator 12.
[0032]Whenever the display state of the predetermined program information supervised by the display Monitoring Department 14 is displayed by the program indicator 12, it is stored in the display state history storage 15 one by one, and let it be display state hysteresis information.
[0033]The hysteresis information about the display state of the predetermined program information stored in the display state history storage 15 is transmitted by the display state history transmission section 16 via networks, such as a telephone line and the Internet, as opposed to the purveyor of service who provides the service to a televiewer. Transmission of the display state hysteresis information by the display state history transmission section 16 is performed based on the transmitting support information transmitted from the sending set 31.
[0034]The service terms of the license which the service terms of the license to which the program receive section 11 is transmitted from the sending set 31 were also received, and were received in the program receive section 31 are recorded at the service condition Records Department 21. And the service terms of the license recorded at the service condition Records Department 21 are stored in the terms-of-the-license storage 22.
[0035]The information which directs that the sending set 31 provides predetermined service to the program receiving set 10 is also transmitted. And if the information which directs service provision is received by the program receiving set 10, The service terms of the license stored by the terms-of-the-license storage 22 and the specific history of the display state of program information stored by the display state history storage 15, It is judged whether it is read into the condition agreement judgment part 23, and the history of the display state about the specific information stored in the display state history storage 15 agrees in the service terms of the license transmitted beforehand. And when the history of the display state about predetermined program information agrees in service terms of the license, predetermined service to a televiewer is carried out by the service provision section 24, for example, the coupon information about discount of predetermined goods, etc. is generated. The generated coupon information is displayed in the program receive section 11, and a televiewer enjoys service of discount of goods, etc. based on the coupon information.
[0036]Drawing 3 is a flow chart which shows operation of the program information receiving set 10. If program information is received by program ******** 11 (step S1 reference of drawing 3), the program receiving set 10, When it checks whether service terms-of-the-license information is included to the program information received in the program receive section 11 (Step S2) and service terms-of-the-license information is included in it, The service terms-of-the-license information transmitted is stored in the terms-of-the-license storage 22 by the service condition Records Department 21 (Step S3).
[0037]When the order information to which a display state history is transmitted from the display state history transmission section 16 is included, a display state history is transmitted to networks, such as a telephone line and the Internet, from (Step S4) and the display state history transmission section 16

(Step S5).
[0038]In checking whether the program information received is accumulated by the program storage part 13 (Step S6) and accumulating by the program storage part 13, it accumulates the program information received in the program storage part 13 (Step S7). In displaying the program information received or the program information accumulated by the program storage part 13 by the program indicator 12, it displays (Step S8), the program information received, or the program information accumulated by the program storage part 13 by the program indicator 12 (step S9).
[0039]The televiewer can accumulate the program information transmitted in the program storage part 13, and it can once view and listen to it at arbitrary time while he can display simultaneously with transmission by the sending set 31 the program information received in the program receive section 11 on the program indicator 12 and can view and listen to it, as mentioned above. And by the display style set part 17, presenting of program information can also be displayed, where a display screen is divided into arbitrary fields.
[0040]When program information is displayed by the program indicator 12, the display Monitoring Department 14 stores in the display state history storage 15 the display state which supervises the situation of the program information displayed by the program indicator 12, and is supervised at the display Monitoring Department 12 (Step S10).
[0041]In this case, the display Monitoring Department 14 stores that display state in the display state history storage 15 one by one, whenever it specifies the program information displayed by the program indicator 12 and that specified program information is displayed by the program indicator 12 by the identifier transmitted with program information. Therefore, the display state hysteresis information of specific program information is stored in the display state history storage 15.
[0042]For example, when specific program information is CM of predetermined goods and the CM is displayed on the program indicator 12, at the display Monitoring Department 14. While measuring the display time in the program indicator 12 of the CM by the timer 14a, the clock 14b detects the display start time of the program indicator 12 of the CM. While the screen size detection means 14c detects the display surface product in the program indicator 12 of the CM, The display style detection means 14d detects the display position and display shape in the program indicator 12 of the CM, and further, when the CM is displayed on the program indicator 12 over multiple times, the display frequency detection means 14e of the display frequency detects. The display state based on all the detection result of them is stored in the display state history part storage 15 one by one.
[0043]When the information which directs service provision is included in the program information which sets after that and is received in the program receive section 11, by (Step S11) and the condition agreement judgment part 23. It is judged whether the service terms of the license stored by the terms-of-the-license storage 22 and the history of the display state of the specific program information stored by the display state history storage 15 have agreed (Step S12).
[0044]The condition agreement judgment part 23 reads the display state hysteresis information of the predetermined program information stored by display state rank history **** 15, and mark-izes read displaying condition hysteresis information (it mentions later for details).

[0045]And if the mark based on the display state hysteresis information at the time of predetermined program information being displayed by the program indicator 12 are computed, the condition agreement judgment part 23 compares the total marks with the service terms of the license transmitted from the sending set 31. The service terms of the license transmitted from the sending set 31 are a mark value corresponding to the mark about a display state history situation, and the contents and the amount of services of service are set up for every mark.
[0046]Thus, the condition agreement judgment part 23 compares the total marks about a display state history situation with the service terms of the license transmitted from the sending set 31, and determines the contents and the amount of services of service. And the service content and the amount of services which were determined are given to the service provision section 24, and the service provision section 24 generates the coupon information about discount of predetermined goods, etc. (Step S13).
[0047]The concrete contents of processing in the condition agreement judgment part 23 are explained based on drawing 4 - the flow chart of six. first, as shown in drawing 4, the condition agreement judgment part 23 sets mark to 0 (step S31 reference of drawing 4, and the following -- the same), and reads the display time by a timer (Step S32). And when display time is till 10 seconds, one point is added as (Step S33) and mark (Step S34). On the other hand, when display time is 10 to 20 seconds, (Step S35) and two points are added (Step S36), and when display time is 20 to 30 seconds, (Step S37) and four points are added (Step S38). Hereafter, if display time increases, the mark added will increase one by one (Steps S39 and S40).
[0048]Subsequently, the display time by a clock is read (Step S41). And when (Step S42) and five points are added in the case of 19:00 to 21:00 (Step S43) and the read display time is 23:00 to 6:00, (Step S44) and two points are added (Step S45). Hereafter, the mark beforehand set up for every time zone are added (Steps S47 and S48).
[0049]Next, screen-display size is read (Step S49 of drawing 5). And when (Step S50) and two points are added for example, when smaller than 5x5 cm (Step S51), and the read screen sizes are 5x5 cm - 10x10 cm, (Step S52) and five points are added (Step S53). Hereafter, the mark added increase one by one, so that screen size becomes large (Steps S54 and S55).
[0050]Then, the display style of a screen is read (Step S56). To the case in the state where it read and the display style of ** and a screen divided the display screen into two, for example, and the (step S57), Ten points are added (Step S58), and two points will be added, if (Step S59) and a display position display on the portions of (Step S60), five points (Step S61), and others in a middle-of-the-screen part in being multi-division (Step S62). 20 points are added when not dividing a display screen (Step S63).
[0051]Next, display frequency is read (Step S64 of drawing 6). And (Step S65) and one point are added for the number of times of reading to 1 time of a case, for example (Step S66), and when display frequency is 2 to 3 times, (Step S67) and three points are added (Step S68). Hereafter, the mark added increase one by one, so that the number of times of reading increases (Steps S69 and S70).

[0052]And if the mark based on the display state hysteresis information at the time of predetermined program information being displayed by the program indicator 12 are computed, the condition agreement judgment part 23 compares the total marks with the service terms of the license transmitted from the sending set 31. The service terms of the license transmitted from the sending set 31 are a mark value corresponding to the mark about a display state history situation, and the contents and the amount of services of service are set up for every mark.
[0053]For example, the total marks based on display state hysteresis information are the coupon information that ten points provide discount (A services) of (Step S71) and A goods for 10 percent off (A ranks) (Step S72). Total marks are the coupon information that 10-20 points provide discount (A services) of (Step S73) and A goods for 20 percent off (A ranks) (Step S74). Total marks are the coupon information that 20-30 points provide discount (B services) of (Step S75) and B goods for 10 percent off (A ranks) (Step S76). hereafter, the coupon information with which the service content and the amount of services which were set up beforehand are alike, and are related is determined for every total marks (Steps S77 and S78).
[0054]Although the service provision section 24 will display the determined coupon information, the coupon 40 as shows drawing 7 the coupon information displayed with a printer etc., for example is printed out suitably. In this case, in order that the coupon 40 printed out may prevent being copied unjustly, the existing electronic watermark technology can be used, for example. In this case, when printed out, the information about copyright is formed as digital watermarking.
[0055]Thus, based on the display state hysteresis information at the time of predetermined program information being displayed by the program indicator 12, the service provision section 24 generates predetermined servicing information. Therefore, the televiewer can enjoy many predetermined services by displaying predetermined program information on the program indicator 12 in a large area in large numbers.
[0056]It may be made to provide not only generation of such coupon information but the key information of which the scramble of the program information to which the scramble transmitted from the sending set 31 was applied, for example is canceled as service performed by the service provision section 24. Even if the scrambled program information is received by the program receive section 11 by this, the program information will be in the state where scramble was canceled, and will be displayed on the program indicator 12.
[0057]The display state hysteresis information stored in the display state history part 15 is read into memory card, and it may enable it to store it. Thus, when display state hysteresis information reads into memory card, By reading the display state hysteresis information stored in the memory card with a suitable read-out device, predetermined service is enjoyable at a different place from the place where the program receiving set 10 is arranged.
[0058]
[Effect of the Invention]In this way, since the program receiving set of this invention can provide the suitable service corresponding to the display state of predetermined program information, it can demand viewing and listening of predetermined program information from a televiewer. The sending

set of this invention can constitute the service provision system which can provide suitable service to a televiewer with such a program receiving set.

[Translation done.]

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CLAIMS

[Claim(s)]
[Claim 1]A program receiving set comprising:
A program receive section which receives a program identifier which identifies program information and program information.
A program indicator which displays program information which said program receive section received.
The display Monitoring Department which supervises a program display state history which is a history of a display state of predetermined program information displayed in said program indicator.
A display state history storage which makes a pair a program identifier of program information supervised at said display Monitoring Department, and display state hysteresis information which is information which shows a display state history of the program information, and stores it.

[Claim 2]The program receiving set according to claim 1 which displays program information which possesses further a program storage part which accumulates program information received in said program receive section, and a program identifier, and is accumulating said program indicator by said program storage part.
[Claim 3]The program receiving set according to claim 1 or 2 which possesses further a display state history transmission section which transmits display history information stored in said display state storage.
[Claim 4]The program receiving set according to claim 2 or 3 which possesses further a display determination set part which sets up a display style of program information in said program indicator and with which said program indicator displays program information according to said display style.
[Claim 5]A terms-of-the-license storage which stores service terms of the license which are conditions to which service is permitted, A condition agreement judgment part which judges whether said display state hysteresis information agrees in service terms of the license stored in this service terms-of-the-license storage, The program receiving set according to any one of claims 1 to 4 which possesses further a service provision section which generates information about service provided for a televiewer when a decision result in said condition agreement judgment part agrees.

[Claim 6]The program receiving set according to claim 5 which possesses further the service terms-of-the-license Records Department which said program receive section also receives service terms of the license, and stores said service terms of the license in said terms-of-the-license storage.
[Claim 7]The program receiving set according to any one of claims 1 to 6 with which display time of program information is included in a display information history which said display Monitoring Department has a timer and is supervised at this display Monitoring Department.
[Claim 8]The program receiving set according to any one of claims 1 to 6 with which display start time of program information is contained in a display information history which said display Monitoring Department has a clock and is supervised at this display Monitoring Department.
[Claim 9]The program receiving set according to any one of claims 1 to 6 with which display screen size of program information is contained in a display information history which said display Monitoring Department has a screen size detection means to detect screen size of program information displayed in a program indicator, and is supervised at this display Monitoring Department.
[Claim 10]The program receiving set according to any one of claims 1 to 6 with which a display style of program information is included in a display information history which said display Monitoring Department has a display style detection means to detect a display style of program information displayed in a program indicator, and is supervised at this display Monitoring Department.
[Claim 11]The program receiving set according to any one of claims 1 to 6 with which display frequency of a program is contained in a display information history which said display Monitoring Department has a display frequency detection means to detect display frequency of program information displayed in a program indicator, and is supervised at this display Monitoring Department.

[Claim 12]The program receiving set according to any one of claims 5 to 11 which generates coupon information which is information concerning [said service provision section] a coupon.
[Claim 13]The program receiving set according to any one of claims 5 to 11 which generates key information of which scramble of a program to which said service provision section was able to apply specific scramble is canceled.
[Claim 14]A sending set characterized by transmitting service terms of the license based on display history information transmitted in a display state history transmission section indicated to claim 3.

[Translation done.]